

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Oxaal, Ford  
 Application No.: 10/602,666  
 Filing Date: 6/25/2003  
 Examiner: Yang, Ryan R.  
 Title: Method for Interactively Viewing Full-Surround Image Data and Apparatus Therefore  
 Art Unit: 2628  
 Docket No.: GRND-24C

## EXHIBIT 1: COMPARISON OF CLAIMS

| ORIGINAL CLAIM  | REVISED CLAIM   | CLAIM EDITS  |
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| <p>1. A method of modeling of the visible world using full-surround image data, said method comprising:</p> <p>selecting a view point within a p-surface wherein the p-surface comprises polygons approximating a partial sphere;</p> <p>selecting a direction of view within the p-surface;</p> <p>texture mapping full-surround image data onto said p-surface such that the resultant texture map is substantially equivalent to projecting full-surround image data onto the p-surface from said view point to thereby generate a texture mapped p-surface; and</p> <p>displaying a predetermined portion of said texture mapped p-surface.</p> | <p>60. A method of modeling of the visible world using full-surround image data, said method comprising:</p> <p>texture mapping full-surround image data onto a p-surface such that the resultant texture map is substantially equivalent to projecting the full-surround image data onto the p-surface from a point of projection to thereby generate a texture mapped p-surface;</p> <p>selecting a direction of view from a view point; and</p> <p>displaying a portion of said texture mapped p-surface based on the selecting;</p> <p>wherein the p-surface comprises polygons approximating a partial sphere.</p> | <p>60. A method of modeling of the visible world using full-surround image data, said method comprising:</p> <p><u>selecting a view point within a p-surface, wherein the p-surface comprises polygons approximating a partial sphere;</u></p> <p><u>selecting a direction of view within the p-surface;</u></p> <p>texture mapping full-surround image data onto [[said]] a p-surface such that the resultant texture map is substantially equivalent to projecting the full-surround image data onto the p-surface from said view a point of projection to thereby generate a texture mapped p-surface;</p> <p><u>selecting a direction of view from a view point; and</u></p> <p>displaying a predetermined portion of said texture mapped p-surface based on the selecting;</p> <p>wherein the p-surface <u>comprises polygons approximating a partial sphere.</u></p> |

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| <p>43. A method of modeling a hemispheric view, said method comprising:</p> <ul style="list-style-type: none"> <li>capturing a first texture p-surface data set approximating a first hemisphere portion derived from a distorted view captured from a first wide-angle lens, said first texture p-surface data set comprising at least a portion of full-surround data wherein the full-surround data includes a partial hemisphere;</li> <li>selecting a view point within the p-surface;</li> <li>selecting a direction of view within the p-surface;</li> <li>texture mapping the full-surround data to a triangulation approximating the first hemisphere onto the p-surface substantially equivalent to projecting the full-surround data onto the p-surface from said view point;</li> <li>generating a texture mapped p-surface corresponding to the selected view; and</li> <li>displaying the selected view of the texture mapped p-surface.</li> </ul> | <p>66. A method of modeling a hemispheric view, said method comprising:</p> <ul style="list-style-type: none"> <li>capturing a first texture p-surface data set approximating a first hemisphere portion derived from a distorted view captured from a first wide-angle lens, said first texture p-surface data set comprising at least a first portion of full-surround image data;</li> <li>texture mapping the full-surround image data to a triangulation approximating the first hemisphere portion onto a p-surface in a manner substantially equivalent to projecting the full-surround image data onto the p-surface from a point of projection;</li> <li>selecting a direction of view from a view point; and</li> <li>displaying a portion of the texture mapped p-surface based on the selecting wherein the full-surround image data includes at least a partial hemisphere.</li> </ul> | <p>66. a method of modeling a hemispheric view, said method comprising:</p> <ul style="list-style-type: none"> <li>capturing a first texture p-surface data set approximating a first hemisphere portion derived from a distorted view captured from a first wide-angle lens, said first texture p-surface data set comprising at least a first portion of full-surround <u>image</u> data wherein the full-surround data includes a partial hemisphere;</li> <li>selecting a view point within the p-surface;</li> <li>selecting a direction of view within the p-surface;</li> <li>texture mapping the full-surround <u>image</u> data to a triangulation approximating the first hemisphere portion onto a p-surface in a manner substantially equivalent to projecting the full-surround <u>image</u> data onto the p-surface from said view a point of projection;</li> <li>selecting a direction of view from a view point; and</li> <li>generating a texture mapped p-surface corresponding to the selected view; and</li> <li>displaying the selected view a portion of the texture mapped p-surface based on the selecting;</li> <li>wherein the full-surround data includes at least a partial hemisphere.</li> </ul> |
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50. A method of modeling an image from a wide-angle lens, said method comprising:

texture mapping image data from the wide-angle lens onto a triangulation of at least a portion of a first hemisphere of full-surround data onto a p-surface wherein the full-surround data includes a partial hemisphere;

selecting a viewpoint within the p-surface;  
selecting a direction of view within the p-surface;  
selecting a perspective of view;

generating a texture mapped p-surface corresponding to the selected view from the selected perspective using the full-surround data; and

displaying the generated view of the texture mapped p-surface.

72. A method of modeling an image from a wide-angle lens, said method comprising:

texture mapping image data from the wide-angle lens onto a triangulation of at least a portion of a first hemisphere of full-surround image data onto a p-surface;

selecting a direction of view from a viewpoint within the p-surface;  
selecting a perspective of view;

generating a texture mapped p-surface corresponding to the selected direction of view from the selected perspective using the full-surround image data; and

displaying a portion of the texture mapped p-surface based on the selecting a direction of view and then selecting a perspective of view;

wherein the full-surround image data includes at least a partial hemisphere.

72. A method of modeling an image from a wide-angle lens, said method comprising:

texture mapping image data from the wide-angle lens onto a triangulation of at least a portion of a first hemisphere of full-surround image data onto a p-surface ~~wherein the full-surround data includes a partial hemisphere;~~

selecting a direction of view from a viewpoint within the p-surface;

selecting a direction of view within the p-surface;

selecting a perspective of view;

generating a texture mapped p-surface corresponding to the selected direction of view from the selected perspective using the full-surround image data; and

displaying the ~~generated view~~ a portion of the texture mapped p-surface based on the selecting a direction of view and then selecting a perspective of view;

wherein the full-surround image data includes at least a partial hemisphere.